

D. REMARKS

Claims 1-23 and 25 remain in this application. Claim 24 is cancelled by this amendment. Allowability of claims 1-8, 10,12-20 and 25 is noted. Claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 21 and 25 are amended to more distinctly describe the subject matter of the invention described in those claims and to correct several typographical errors in the claims as filed. Claims 10 and 12 are amended to place the claims in independent form as suggested by the Office Action. The claim amendments are presented in the substitute specification and are presented in this response for completeness.

The specification is extensively amended to correct typographical errors in the application as filed. Also, the drawings are amended to correct various missing identifiers in the drawings as filed. No new matter is added by these amendments and the amendments are not intended to affect the scope of the claims.

1. CLAIM OBJECTIONS

The amendments to claims 10, 12, 13 and 15 are believed to overcome the objections raised in the Office Action. Accordingly, it is respectfully requested that the rejections be withdrawn.

2. REJECTIONS UNDER 35 U.S.C. 112

Pending claims 1-23 and 25 were rejected under 35 USC 112. These rejections are respectfully traversed.

Specifically, the Office Action suggests that the specification fails to set limits on whether the requests and responses are in packet format. It is believed that the modifications to the specific teachings of the disclosure that would be required to implement non-packet requests and responses are well well-known to the ordinarily skilled artisan. Non-packet interconnection technology is quite well known. However, in the spirit of cooperation, the claims have been amended to specifically recite packet-format requests. This amendment is made without prejudice as the right to later claim non-packet requests is explicitly reserved.

The Office Action specifically objected to a portion of the specification that

teaches that:

"the model permits one target port to be in communication with one initiator port at the same time that another target port is in communication with another target port".

This portion of the specification reflects the perspective of one specific initiator port. From that perspective, all other modules/ports are targets. Hence, from the perspective of an initiator, communication between any two ports is target-to-target communication unless the initiator is involved. This is admittedly a difficult concept to express, but the language of the specification is believed to accurately reflect the manner in which the invention operates.

With respect to the discussion of "return_resoure_mapping_k", the amendment to the specification is believed to correct the confusion noted in the Office Action.

With respect to the discussion of "return_resoure_arbitration_k", the amendment to the specification is believed to correct the confusion noted in the Office Action.

With respect to the discussion of "return_decode_f" function, the amendment to the specification is believed to correct the confusion noted in the Office Action.

With respect to the discussion of "forward_decode_f" function, the amendment to the specification is believed to correct the incorrect labeling of the initiator re-timer 25 and the request arbiter re-timer 40 in what is now paragraph [0079].

With respect to the contradiction between point-to-point mapping and mapping a single initiator to multiple targets, the Office Action is correct that point to multipoint cannot be both forbidden and implemented at the same time. These are presented as alternative embodiments. The preferred embodiment is point-to-point, whereas it is contemplated that a multi-cast or simulcast type distribution could be implemented in less preferred embodiments. This distinction is believed to be clear in the specification.

With respect to claim 7, the amendments to what is now paragraph [0076] are believed to clarify support for the "association between the routing resource and the initiator". This clarification is also believed to overcome the rejection of claim 8. Accordingly, it is requested that the rejection under 35 USC 112 be withdrawn.

With respect to claim 11, the specification discloses a response arbiter in paragraphs [0032], [0074], [0075] and [0081] that supports claim 11 and claim 12. It is respectfully requested that the rejection under 35 USC 112 be withdrawn.

With respect to claims 1-4, 12 and 25, the claims are amended to correct the informalities noted in the office action. It is respectfully requested that the rejections under 35 USC 112 of these claims be withdrawn.

In view of the above and the extensive clarifying amendments made to the specification, it is respectfully requested that the rejections to claims 1-15 under 35 USC 112 be withdrawn.

3. REJECTIONS UNDER 35 U.S.C. 102

Claims 9, 11 and 21-23 were rejected were rejected under 35 U.S.C. 102 as anticipated by Kothary. This rejection is respectfully traversed.

Claims 9 and 11 call for, among other things, an interconnect coupled to communicate packets between initiators and targets, and an arbitration model having a plurality of different arbitration methods, wherein each arbitration method specifies whether the initiator is responsible for ensuring time based ordering of packets is handled, and selecting one of the plurality of arbitration methods available in said model. Claims 9 and 11 differ in that claim 9 is directed to an arbiter positioned between the initiator and the interconnect whereas claim 11 is directed to an arbiter positioned between the target and the interconnect. At least these features of claims 9 and 11 are not shown or suggested by the Kothary reference.

Kothary shows a switch that handles both ATM and Ethernet type packets. These two packet types have different arbitration methods as an ATM packet, comprising many cells, may be interleaved during transmission at a cell level, whereas an Ethernet packet cannot be interleaved. However, the Kothary method is

not applicable to ensuring packet ordering or specifying responsibility for ensuring packet ordering. In either mode, Kothary's arbiter determines which input port to monitor, and when to change over to another input port. However, this does not specify whether any of the input ports are responsible for maintaining time base ordering of the packets.

Moreover, both claims 9 and 11 call for an arbiter in an integrated circuit. Kothary describes an arbiter that is created within a switch, not within an integrated circuit. The Kothary disclosure involves communications between several non-integrated devices, and so does not show a system in which the initiators, targets, and interconnect are on an integrated circuit. Nothing in Kothary would suggest the modifications necessary or need to integrate in the manner called for in claims 9 and 11.

For at least these reasons, claims 9 and 11, as well as claims 10 and 12 that depend from claims 9 and 11, are believed to be allowable over the relied on reference.

With respect to claims 21-23, Kothary fails to show or suggest arbitration logic that is arranged to update a store for storing information defining the priority of said sources after arbitration to define the priority of said sources for a subsequent arbitration. At column 7, lines 39-44, Kothary describes an input port (not an arbiter) that receives ATM cells. Similarly, the PRIORITY table described in reference to Fig. 6, is implemented in RAMs 58 and 60, not in the arbiter 28. The PRIORITY table shown in Fig. 6 is maintained on a port by port basis. The arbiter 28 polls the input ports to determine when the input port contains packets that are ready to transmit, but it appears that the logic for maintaining the PRIORITY table is implemented within each port and not the arbiter.

In other words, to the extent Kothary shows arbitration logic, it is not shared and not implemented in an arbiter that has a store for defining priority (or any other information) about a plurality of sources. The Kothary PRIORITY table stores only information about a single source. Moreover, the arbitration logic 28 does not update the store after an arbitration, instead, logic within each port will update the

PRIORITY table once the last cell of a transmission is forwarded. The priority of the sources for a subsequent arbitration does not appear to be affected.

For at least these reasons, claims 21-23 are not shown or suggested by the Kothary reference.

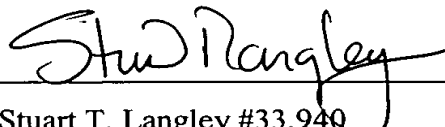
4. **CONCLUSION**

In view of all of the above claims 1-23 and 25 are believed to be allowable and the case in condition for allowance which action is respectfully requested. The references that were cited and not relied upon are believed to be no more pertinent than those references that were relied upon.

Two new independent claims are added by this response and a check including the required fee of \$168 is included with this response as determined on the accompanying fee transmittal letter. Should any other fee be required, please charge Deposit 50-1123. This response is filed together with a request for a 3 month extension of time and the required fee of \$930. If any additional extension of time is required please consider this a petition therefore and charge the required fee to Deposit Account 50-1123.

Respectfully submitted,

Date: May 1, 2003

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